Perceptual and Motor Skills, 1988, 67, 907-910. © Perceptual and Motor Skills 1988

GEOPHYSICAL VARIABLES AND BEHAVIOR: LII. DECREASED GEOMAGNETIC ACTIVITY AND SPONTANEOUS TELEPATHIC EXPERIENCES FROM THE SIDGWICK COLLECTION[1]

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Summary.—All cases (n = 93) of putative subjective psi experiences that contained the day, month, and year of occurrence were determined from the 1922 Sidgwick collection. Multivariate analysis of variance for telepathic experiences concerning death and crisis (n = 43), telepathic experiences concerning more mundane events (n = 28) and experiences (case controls) involved with temporal discrepancies (n = 22) showed that only telepathic experiences concerning death and crisis occurred on days when the geomagnetic activity was significantly less than the 3 days before or the 3 days after the experiences. The other two classes of cases did not demonstrate this effect. The V-shaped pattern in geomagnetic activity was similar to that found in the Gurney-Podmore-Myers collection (1868 through 1886) and the Fate collection (1920 through 1980) as well as the strongest Maimonides experimental dream telepathy cases.

Several studies (Persinger, 1985, 1987; Persinger & Schaut, 1988; Schaut & Persinger, 1985) have shown that putative telepathic experiences concerning death or crises have occurred on days when the geomagnetic activity was significantly lower than the days before or after the experiences. In addition, these key days displayed activity that was lower than the average activity of the months or years in which they occurred. Similar effects were found with a data base that included experiences between the years 1868 and 1886 (Persinger, 1987) and between the years 1920 and 1980 (Persinger & Schaut, 1988).

To assess if this pattern was consistent in still another collection of cases we analyzed *all* of the spontaneous (subjective) cases (that contained the day, month, and year of experience) from the Sidgwick collection (1922) using the same methods as those reported earlier (Schaut & Persinger, 1985). A total of 71 cases were obtained that involved experiences within a few minutes of the event; in addition, 22 cases (putative precognition and *post mortem* experiences) involved some temporal discrepancy between the experience and the alleged event (more than plus or minus one hour). Because telepathic experiences concerning mundane events are more likely to be contaminated by chance factors or shared reinforcement history (Persinger, 1974), two groups were differentiated from the telepathic

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[2]Thanks are due Dr. A. O. Gauld, Department of Psychology, The University of Nottingham, England for obtaining and sending us the Sidgwick collection.

experiences: mundane events (n = 28) and death and crisis/sickness events (n = 43).

The daily average aa values were obtained from Mayaud (1973) for each of the 3 days before, the 3 days after, and the day of the experience (Day 0). Average aa values for the months and years in which the experiences occurred were also determined. Because of the occasional outlier, the aa indices for each case were transformed to log base 10 values by SPSS^x software. Multivariate analysis of variance was completed as a function of the seven successive days of geomagnetic activity (key day $\pm$ 3 days) and the three groups of psi experiences (telepathic experiences concerning death, sickness, or crisis to significant others, telepathic experiences concerning mundane events, e.g., agent worrying about the experiment, and the case controls). In addition, t tests for correlated data were completed between the aa values for the days of the experiences, the average aa values for the months in which the experiences occurred and the average aa values for the years in which the experiences occurred, for each group separately.

Multivariate analysis of variance yielded no significant differences between the groups ($F_{2,90}$ = 0.72, $p > .05$); however, there was a statistically significant interaction of group by day ($F_{12,540}$ = 2.61, p = .001). Hotelling's multivariate test was also significant ($T_{12,168}$ = 0.40, p = .002). The primary source of the interaction was the relative decreased geomagnetic activity on the days of the telepathic experiences concerning death and crisis relative to both the mundane cases and the case controls. A Kruskal-Wallis analysis of the group differences in aa values on the days of the experiences was also significant (χ^2 = 19.83, $p < .001$).

For correlated data, t tests (all dfs = 42) indicated that the geomagnetic activity on the days of the telepathic experiences concerning death and crisis was significantly less than the average activity for the month (t = 4.50) and year (t = 4.59, $p < .001$) in which the experiences occurred; the monthly activity was also lower than the yearly activity (t = 2.50, $p < .05$). However, the geomagnetic activity on the days that the mundane experiences (all dfs = 27) occurred was not significantly different from either the monthly (t = 1.64) or yearly (t = 1.75) activity, and these did not differ from each other (t = 0.90). The activity on the days that the precognitive and *post mortem* experiences occurred was significantly ($p < .001$; all dfs = 21) more active than the monthly (t = 4.46) and yearly activity (t = 3.81) which did not differ from each other (t = 0.15). The pattern was similar to the *Fate* data (Persinger & Schaut, 1988).

In Fig. 1B appears the temporal pattern of geomagnetic activity before, during, and after the days of telepathic experiences (primarily 1887 to 1920) from the Sidgwick collection with the experiences that occurred between 1868 and 1886 (the Gurney-Podmore-Myers collection; Persinger, 1987) and

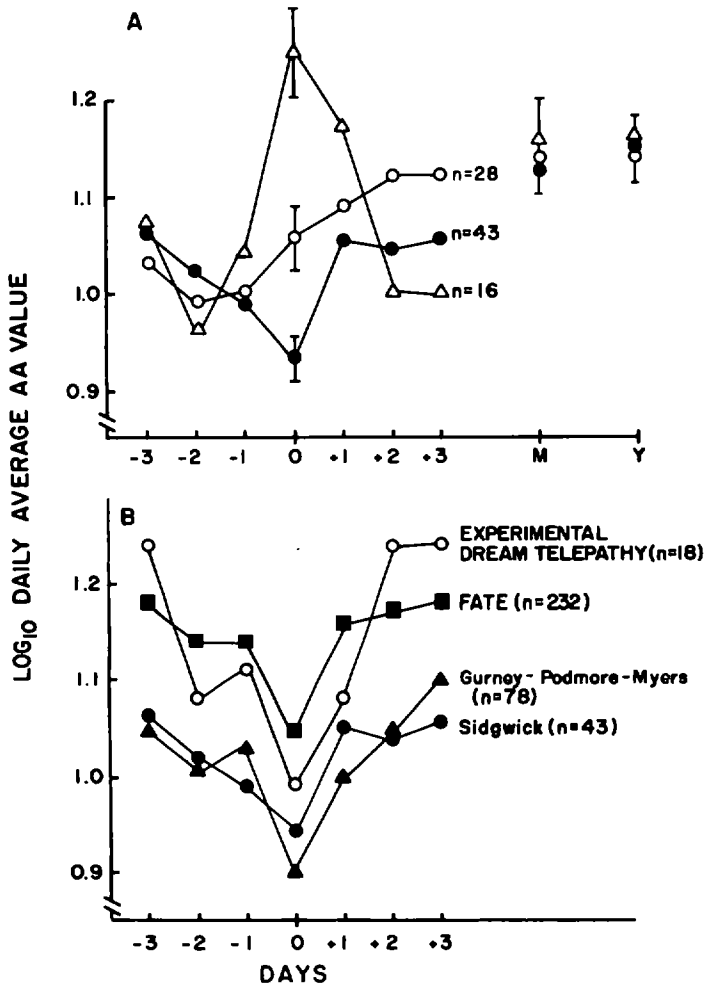

FIG. 1. (A) Log transformations of the daily average aa values for the days before, during (0), and after telepathic experiences concerning death and crisis/sickness (●), telepathic experiences concerning mundane events (○), and case controls (△). (B) Comparison of the aa values for different data bases that include experiences that occurred between the years 1868 and 1980.

between (primarily) 1930 and 1980 (total FATE collection). For comparison the geomagnetic activity on the nights of the strongest experimental telepathic dream experiences (1962 through 1969) from the Maimonides studies (Ullman & Krippner, 1978; Persinger & Krippner, submitted) are also shown. These results indicate a persistent pattern: days on which strong experiences of putative telepathy have occurred have shown a relative decrease in geomagnetic activity compared to the days before and after-

wards. The actual values of the daily average aa amplitude have been approximately 10 gamma, following a decrease of about 10 to 15 gamma from the previous days.

Considering the consistency of the V-shaped geomagnetic effect, the central role of global geomagnetic activity in the occurrence (or memory of the occurrence) of intense telepathic experiences is apparent. The presence or absence of the V-shaped pattern might successfully distinguish between telepathic phenomena associated with processes that have been occurring for at least a century from those attributed to systematic deviations from chance within a variety of laboratory (experimental psi) settings. The neuropsychological and physical mechanisms by which these experiences are mediated must still be established.

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Accepted September 28, 1988.